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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,393	12/09/2003	Chaiyuth Chansungsan	884.A83US1	4663
21186	7590	12/07/2005	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH 1600 TCF TOWER 121 SOUTH EIGHT STREET MINNEAPOLIS, MN 55402			LAM, TUAN THIEU	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 12/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/731,393

Applicant(s)

CHANSUNGSAN ET AL.

Examiner

Tuan T. Lam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 31 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-4 and 22 is/are allowed.
- 6) ☒ Claim(s) 1 and 5-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This is a response to the amendment filed 10/31/2005. Claims 1-22 are pending and are under examination.

#### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 15 and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Uchimura et al. (USP 4,622,480).

Figure 7 of Uchimura et al. shows a noise detector circuit for detecting noise in power supply comprising producing a substantially noise free current signal (the current flows the transistor 90 of figure 8 is noise free signal), detecting one or more power supplies Vdd, processing the substantially noise free current signal and the one or two power supply signals to detect noise signal in the one or two power supply signals and generating a noise detection signal (output Vbout) in response to detection of noise signal as called for in claims 15 and 18.

Regarding claim 17, figure 2 shows Vdd and ground are two voltage having different polarities (positive and negative).

Regarding claim 19, the output of the comparator 20 is a digital signal in response to the detection of noise signal.

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Regarding claim 20, the noise detection threshold level is set by the VBIN as the calibration potential level, the voltage level slightly above the ambient noise in the system, is embedded within the power supplies.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 16 and 21 rejected under 35 U.S.C. 102(e) as being anticipated by Mullgrav, JR. (US 2003/0085765).

Figure 8 shows a circuit comprising a reference current source (120) to provide a substantially noise free differential current signal (the filtering function 120 provides a clean different current signal 152' and 152''), a detector (68) receives the noise free differential current signal and detects a noise signal on the power supply (60), the detector generates a noise detection signal (Ip and In) as called for in claims 1 and 16.

Regarding claim 21, the charge pump/filter is inherently having a controllable current source.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mullgrav (US 2003/0085765).

Figure 8 shows a circuit comprising a reference current source (inside 120) to provide a substantially noise free differential current signal (the filtering function 120 provides a clean different current signal 152' and 152''), a detector (68) receives the noise free differential current signal and detects a noise signal on the power supply (60), the detector generates a noise detection signal (Ip and In).

The differences seen between Mullgrav, JR. reference and the present invention is that the Mullgrav, JR. shows a single reference current source and a single power supplies detector instead of a plurality of reference current sources and a corresponding plurality of power supplies detector as called for in claims 5-14. However, one skilled in the art would have been recognized that Mullgrav, JR. power supplies detection circuit can be expanded by duplicating a plurality of each reference current circuits and power supplies detector circuits. Such expansion is seen as an obvious modification to one skilled in the art for sensing plurality of power supplies. See *In re Harza* 274 F 2d. 669, 124 USPQ 378 (CCPA 1960). Therefore, outside of non-obvious results, the obviousness of duplicating a plurality of each reference current circuits and power supplies detector circuits will be patentable under 35USC 103(a).

Regarding claims 6-14, the limitations recited therein are seen to be inherently present in Mullgrav, JR.

#### ***Response to Arguments***

4. Applicant's arguments filed 10/31/2005 have been fully considered but they are not persuasive.

Regarding claims 15 and 17-20 as being anticipated by Uchimura et al. (USP 4,622,480),

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applicant argues that Uchimura et al. fails to disclose a noise free current signal is not persuasive. Column 8, lines 35 states that the current flows through transistor 90 is constant irrespective of variation in the power supply. Therefore, the limitation of noise free current signal is met.


*Allowable Subject Matter*

5. Claims 2-4 and 22 are presently allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Lam whose telephone number is 571-272-1744. The examiner can normally be reached on Monday to Friday (7:30 am to 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY P. CALLAHAN can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tuan T Lam  
Primary Examiner  
Art Unit 2816

12/5/2005